

AMENDED IN ASSEMBLY APRIL 25, 2005

AMENDED IN ASSEMBLY APRIL 4, 2005

CALIFORNIA LEGISLATURE—2005—06 REGULAR SESSION

## ASSEMBLY BILL

**No. 929**

**Introduced by Assembly Member Oropeza**

February 18, 2005

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An act to ~~add Section 1256.5 to, and to add Article 5 (commencing with Section 114897) to Chapter 6 of Part 9 of Division 104 of;~~ the Health and Safety Code, relating to radiation technology.

### LEGISLATIVE COUNSEL'S DIGEST

AB 929, as amended, Oropeza. Radiologic technology: radiation exposure.

~~(1) Under~~

*Under existing law, the State Department of Health Services administers provisions that establish standards for the education, training, and experience of persons who use radiologic technology on human beings.*

*Existing law provides for the Office of Environmental Health Hazard Assessment.*

*Existing law provides for the California Research Bureau in the California State Library, which is responsible for, among other things, conducting various studies.*

*This bill would require the California Research Bureau, in consultation with the department and the office, to contract with an independent evaluator to conduct a study of best practices across the nation that have resulted in a reduction of ionizing radiation exposure from radiation-producing machines used for medical diagnosis and to make recommendations for implementing a radiation quality*

*assurance program in California and for improving provider and patient awareness of the benefits and risks of radiation exposure. The bill would require the bureau to submit the study and recommendations to the appropriate committees of the Legislature on or before January 1, 2007.*

~~This bill would require the department, using existing information available from 2 federal sources, to educate the public about the health effects of radiation and how to reduce exposure to radiation, to develop a radiation awareness poster and distribute it to hospitals, and to develop a radiation awareness section on its Web site that includes a downloadable X-ray record card and brochure.~~

~~Existing law provides for the appointment by the department of the Radiologic Technology Certification Committee to serve as consultants to the department in its administration and enforcement of provisions governing standards of education, training, and experience for persons who use X-rays.~~

~~This bill would require the committee to provide recommendations on standards for measuring and tracking safe radiation dosage and methods for improving provider and patient awareness of radiation exposure benefits and risks, to the department and the Legislature on or before June 2007. The bill would require the department to notify, via E-mail, public health and patient advocates of the meetings of the committee 30 days prior to each meeting date.~~

~~(2) Existing law provides for the licensure and regulation of health facilities by the department. A violation of these provisions is a crime.~~

~~This bill would require each health facility that uses radiological technology in the examination of patients to post the radiation awareness poster and to print and disseminate, to the extent its resources permit, the radiation brochure required to be prepared by the department.~~

~~Because this bill would impose a new requirement on certain health facilities, a violation of which would be a crime, this bill would impose a state-mandated local program.~~

~~The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.~~

~~This bill would provide that no reimbursement is required by this act for a specified reason.~~

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: ~~yes~~-no.

*The people of the State of California do enact as follows:*

1 SECTION 1. (a) The Legislature finds and declares all of the  
2 following:

3 (1) (A) More than 300,000,000 medical and dental imaging  
4 examinations and radiation therapy treatments are administered  
5 annually in the United States. *Proper use of ionizing radiation is*  
6 *an extremely important life-saving therapy for many cancer*  
7 *patients.* Seven out of every 10 Americans undergo a medical or  
8 dental imaging examination or radiation therapy treatment every  
9 year in the United States.

10 (B) These procedures are useful in the diagnosis of medical  
11 conditions. However, the administration of medical and dental  
12 imaging examinations and the effect of these procedures on  
13 individuals have a substantial and direct effect upon public health  
14 and safety.

15 (C) It is in the interest of public health and safety to minimize  
16 unnecessary or inappropriate exposure to radiation from medical  
17 and dental radiological procedures.

18 (2) In 2005, about ~~135,125~~ 135,000 Californians will be  
19 diagnosed with cancer and about ~~53,785~~ 54,000 will die of the  
20 disease. Cancer incidence is rising ~~at an alarming rate throughout~~  
21 *the United States.* In the United States, one in three women and  
22 one in two men will face cancer during their lifetime. Exposure  
23 to radiation such as through X-rays, CT scans, fluoroscopy, and  
24 other medical and dental radiological procedures is contributing  
25 to the high rates *in the United States.*

26 ~~(3) "State of the Evidence," a report jointly released by the~~  
27 ~~Breast Cancer Fund, a nonprofit environmental health~~  
28 ~~organization, and Breast Cancer Action, a nonprofit national~~  
29 ~~education and advocacy organization, states that exposure to~~  
30 ~~ionizing radiation is the best-established environmental cause of~~  
31 ~~human breast cancer.~~

32 (3) *In January 2005, the National Toxicology Program*  
33 *classified x-radiation and gamma radiation as known human*  
34 *carcinogens. The report stated that "exposure to these kinds of*  
35 *radiation cause many types of cancer including leukemia and*

1 *cancers of the thyroid, breast and lung . . . Exposure to*  
2 *x-radiation and gamma radiation has also been shown to cause*  
3 *cancer of the salivary glands, stomach, colon, bladder, ovaries,*  
4 *central nervous system and skin.” Diagnostic radiation is*  
5 *valuable in the practice of medicine and dentistry today.*  
6 *However, patients have a right to know that procedures involving*  
7 *exposure to radiation entail risks as well as benefits.*

8 (4) *According to a leading scientist with the National Cancer*  
9 *Institute, “More is known about the relationship between*  
10 *radiation dose and cancer risk than any other human*  
11 *carcinogen, and female breast cancer is the best quantified*  
12 *radiation-related cancer.” Breast cancer is the most commonly*  
13 *diagnosed cancer among women in California and in the United*  
14 *States. Each year in California approximately 21,000 women will*  
15 *be diagnosed with the disease and 4,000 will die from it.*

16 ~~(4) The occurrence of brain tumors after high-dose exposure to~~  
17 ~~ionizing radiation is well established. According to the National~~  
18 ~~Brain Tumor Foundation’s publication, “Essential Guide to Brain~~  
19 ~~Tumors,” the treatment of disease with therapeutic ionizing~~  
20 ~~radiation, including X-rays, is a strong risk factor for brain~~  
21 ~~tumors. Studies demonstrate that in adults, dental X-rays have~~  
22 ~~also been shown to increase the risk of meningioma, a benign~~  
23 ~~brain tumor, especially in women.~~

24 ~~(5) In January 2005, the National Toxicology Program~~  
25 ~~classified x-radiation and gamma radiation as known human~~  
26 ~~carcinogens. Although diagnostic radiation is valuable in the~~  
27 ~~practice of medicine and dentistry today, patients have a right to~~  
28 ~~know that procedures involving exposure to radiation entail risks~~  
29 ~~as well as benefits. Radiation is an extremely important and~~  
30 ~~life-saving therapy for many cancer patients. However, it is also~~  
31 ~~important to inform cancer patients about the risks of radiation.~~

32 (6)  
33 (5) To reduce the risk of radiation-related cancer, physicians,  
34 dentists, other health care providers, technologists, equipment  
35 manufacturers, and the government share the responsibility to  
36 minimize radiation exposure of patients. Exposures should be as  
37 low as reasonably achievable without sacrificing image quality.  
38 Studies have shown that ~~some physicians, dentists, and other~~  
39 ~~health professionals underestimate the risk of cumulative~~  
40 ~~radiation exposure when referring patients for X-rays, scans, and~~

~~other imaging procedures. In addition, patients are not always~~  
~~fully informed about the potential risk inherent in radiologic~~  
~~imaging. often patients are not provided with sufficient~~  
~~information on the merits and potential adverse effects of~~  
~~diagnostic imaging tools. In addition, the popularity of~~  
~~self-referred whole body CT scans has increased concern among~~  
~~radiologists and cancer specialists. The United States Food and~~  
~~Drug Administration has never approved CT scans for screening~~  
~~any part of the body for any specific disease, let alone for~~  
~~screening the whole body when there are no specific symptoms of~~  
~~a disease. The American College of Radiology states that “there~~  
~~is no evidence that total body CT screening is cost efficient or~~  
~~effective in prolonging life.” Scientists at Columbia University~~  
~~found that a single full-body CT scan exposes a person to a~~  
~~radiation dose nearly 100 times that of a typical mammogram.~~  
Improving patient awareness and protection during radiologic  
imaging is a critical step toward reducing a preventable cause of  
cancer.

~~(7)~~

(6) According to the National Cancer Institute, children are  
uniquely vulnerable to harm from radiation exposure because  
they are more sensitive to radiation than adults. Children have a  
longer life expectancy after exposure, creating a larger window  
of opportunity for expressing radiation damage. For example, CT  
scans deliver a much higher radiation dose than ~~ordinary~~  
~~conventional~~ X-rays. Approximately 2 to 3 million CT scan  
examinations are performed annually on children in the United  
States. The use of CT scans has increased seven-fold in the past  
10 years. ~~Experts estimate that CT scan radiation exposure can be~~  
~~cut by 50 percent during examinations of children without~~  
~~sacrificing diagnostic information. Recent studies show that~~  
~~performing 600,000 abdominal and head CT scans annually in~~  
~~children younger than 15 years of age could result in 500 deaths~~  
~~from cancer attributed to CT radiation.~~

(7) In 2001, the State of New Jersey developed and  
implemented a “Quality Assurance Program” that has led to a  
reduction in ionizing radiation exposure.

(b) It is the intent of the Legislature in enacting this act to  
educate health professionals and the public regarding radiation  
risks and how to reduce exposure *and to promote best practices*

1 *as a proven means to reduce the exposure to ionizing radiation,*  
2 *and increase and maintain diagnostic image quality.*

3 ~~SEC. 2. Section 1256.5 is added to the Health and Safety~~  
4 ~~Code, to read:~~

5 ~~1256.5. (a) Every health facility that uses radiological~~  
6 ~~technology in the examination of patients shall post in each of its~~  
7 ~~waiting and examination rooms the radiation awareness poster~~  
8 ~~developed and distributed by the department pursuant to~~  
9 ~~subdivision (b) of Section 114897.~~

10 ~~(b) To the extent that resources permit, each hospital subject to~~  
11 ~~subdivision (a) shall print, and disseminate in waiting and~~  
12 ~~examination rooms, the radiation awareness brochure developed~~  
13 ~~by the department pursuant to subdivision (c) of Section 114897.~~

14 ~~SEC. 3:~~

15 ~~SEC. 2. Article 5 (commencing with Section 114897) is~~  
16 ~~added to Chapter 6 of Part 9 of Division 104 of the Health and~~  
17 ~~Safety Code, to read:~~

18  
19 Article 5. Radiation Exposure  
20

21 ~~114897. (a) (1) The State Department of Health Services~~  
22 ~~shall educate the public about both the benefits and the risks of~~  
23 ~~radiation so patients can make informed decisions in consultation~~  
24 ~~with their doctors.~~

25 ~~(2) The department shall use existing information available~~  
26 ~~through the United States Food and Drug Administration and the~~  
27 ~~National Cancer Institute to implement this section.~~

28 ~~(b) The department shall develop a radiation awareness poster~~  
29 ~~and distribute it to hospitals.~~

30 ~~(c) The department shall develop a radiation awareness section~~  
31 ~~on its Web site that includes, but is not limited to, a~~  
32 ~~downloadable X-ray record card and brochure in English and~~  
33 ~~Spanish, and, to the extent that funding is available, in other~~  
34 ~~languages.~~

35 ~~(d) (1) The department shall notify, via E-mail, public health~~  
36 ~~and patient advocates of the department's Radiologic Technology~~  
37 ~~Certification Committee meetings 30 days prior to each meeting~~  
38 ~~date.~~

39 ~~(2) On or before June 1, 2007, the department's Radiologic~~  
40 ~~Technology Certification Committee shall prepare and provide to~~

1 the department and the Legislature recommendations on both of  
2 the following:

3 (A) Standards for measuring and tracking radiation dosage for  
4 each diagnostic patient procedure.

5 (B) Methods for improving provider and patient awareness of  
6 the benefits and risks of radiation exposure.

7 *In order to increase protection to the public and radiation*  
8 *workers from unnecessary exposure to radiation and to reduce*  
9 *the occurrence of misdiagnosis caused by faulty equipment and*  
10 *operator error, the California Research Bureau, in consultation*  
11 *with the State Department of Health Services and the Office of*  
12 *Environmental Health Hazard Assessment, shall contract with an*  
13 *independent evaluator with proven expertise in design and*  
14 *research to conduct a study of best practices across the nation*  
15 *that have resulted in a reduction of ionizing radiation exposure*  
16 *from radiation-producing machines used for medical diagnosis*  
17 *and make recommendations pursuant to paragraph (2).*

18 (2) *The contracting independent evaluator shall prepare and*  
19 *provide to the bureau a summary of findings from the study and*  
20 *make recommendations on both of the following:*

21 (A) *Methods for implementing a Radiation Quality Assurance*  
22 *Program in California to help insure that high quality diagnostic*  
23 *images are consistently produced while minimizing ionizing*  
24 *radiation exposure.*

25 (B) *Methods for improving provider and patient awareness of*  
26 *the benefits and risks of radiation exposure.*

27 (b) *On or before January 1, 2007, the bureau shall submit the*  
28 *summary of findings and the recommendations to the appropriate*  
29 *policy committees of the Legislature.*

30 ~~SEC. 4. No reimbursement is required by this act pursuant to~~  
31 ~~Section 6 of Article XIII B of the California Constitution because~~  
32 ~~the only costs that may be incurred by a local agency or school~~  
33 ~~district will be incurred because this act creates a new crime or~~  
34 ~~infraction, eliminates a crime or infraction, or changes the~~  
35 ~~penalty for a crime or infraction, within the meaning of Section~~  
36 ~~17556 of the Government Code, or changes the definition of a~~  
37 ~~crime within the meaning of Section 6 of Article XIII B of the~~  
38 ~~California Constitution.~~